

Adapter Board for Stacking Ball-Grid-Array (BGA) chips

Abstract

Electronic devices packaged with arrayed solder balls, leads, or pads, such as Ball Grid Array (BGA) devices, are stacked together. Each stack has a bottom adapter card with metal contacts on a top surface in an array to match the array of solder balls of a lower BGA package, and final bonding pads on a bottom surface that are soldered to an underlying motherboard or printed-circuit board (PCB). An upper BGA package has its solder balls connected to a matching array of metal contacts on a top surface of an intermediate adapter card. Metal traces on the intermediate adapter card connect to lead frame pins that wrap around the edge of the intermediate adapter card and make contact with peripheral pads on the top surface of the bottom adapter card. Lead frame pins and peripheral pads can connect several intermediate adapter cards together with one bottom adapter card.